EXPERIMENTAL EYE RESEARCH

Editors-in-Chief
E. A. Balazs and K. E. Eakins

Section Editors
A. Bill, L. Z. Bito, H. Bloemendal, J. G. Hollyfield, P. J. O'Brien, J. Piatigorsky and A. Spector

Editors

D. C. Beebe
J. C. Besharse
F. Bettelheim
P. Bhattacherjee
J. E. Brown
A. I. Cohen
Y. Courtois
H. Davson
G. Duncan
B. E. J. Ehinger
D. B. Farber
W. Garner
M. O. Hall
J. Harding
H. J. Hoenders
J. Horwitz
S. Iwata
B. Jacobson
M. E. Langham
R. E. Marc
D. M. Maurice
R. Meyers-Elliott
V. N. Reddy
H. Ripps
J. W. Rohen
J. C. Saari
R. Tripathi
J. A. Zadunaisky

VOLUME 42
1986

ACADEMIC PRESS

London Orlando San Diego New York
Austin Boston Sydney Tokyo Toronto
Harcourt Brace Jovanovich, Publishers

Copyright © 1986 by Academic Press Inc. (London) Ltd.
ALL RIGHTS RESERVED

No part of this volume may be produced in any form, by photostat, microfilm, or any other means, without written permission from the publishers.

Printed in Great Britain

CONTENTS OF VOLUME 42

Number 1, January 1986

Akpalaba, C. O., Oraedu, A. C. I. and Nwanze, E. A. C. Biochemical Studies on the Effects of Continuous Light on the Albino Rat Retina 1

Jose, J. G. Posterior Cataract Induction by UV-B Radiation in Albino Mice 11

Gärtner, J. Electron-microscopic Study on the Fibrillar Network and Fibrocyte–Collagen Interactions in the Vitreous Cortex at the Ora Serrata of Human Eyes with Special Regard to the Role of Disintegrating Cells 21

Palmquist, B.-M., Fagerholm, P. and Landau, I. Selenium-Induced Cataract – a Correlation of Dry Mass Content and Light Scattering 35

Zintz, C. and Beebe, D. C. Morphological and Cell Volume Changes in Rat Lens During the Formation of Radiation Cataracts 43

Hicks, D. and Molday, B. S. Differential Immunogold–Dextran Labeling of Bovine and Frog Rod and Cone Cells Using Monoclonal Antibodies against Bovine Rhodopsin 55

Organisciak, D. T., Wang, H.-M., Noell, W. K., Plantner, J. J. and Kean, E. L. Rod Outer Segment Lipids in Vitamin A-Adequate and -Deficient Rats 73

Letters to the Editors

Albert, D. M., Puliafito, C. A., Haluska, F. G., Kimball, G. P. and Robinson, N. L. Induction of Ocular Neoplasms in Wistar Rat by N-Methyl-N-Nitrosourea 83

Lake, N. Electroretinographic Deficits in Rats treated with Guanidinoethyl Sulfonate, a Depletor of Taurine 87

Rungby, J. The Silver Nitrate Prophylaxis of Credé Causes Silver Deposition in the Cornea of Experimental Animals 93

Number 2, February 1986

Russell, P. and Sato, S. A. A Study of Lectin-Binding to the Water-Insoluble Proteins of the Lens 95

Cook, C. S. and Bentley, P. J. Copper Exchanges and Toxicity in the Rabbit Lens In Vitro 107

Gona, O. and White, J. H. Response of the Lens of the Galactose-Fed Rat to YAG Laser-Induced Injury 117

Sullivan, D. A. and Allansmith, M. R. Hormonal Modulation of Tear Volume in the Rat 131

Araie, M. Carboxyfluorescein. A Dye for Evaluating the Corneal Endothelial Barrier Function In Vivo 141

Lucas, V. A., Duncan, G. and Davies, P. Membrane Permeability Characteristics of Perfused Human Senile Cataractous Lenses 151

Pandolfo, L., Livrea, M. A. and Bono, A. Effects of Bendazac L-Lysine Salt on X-Ray-induced Cataract in the Rabbit Lens 167

Kennedy, A., Frank, R. N., Mancini, M. A. and Lande, M. Collagens of the Retinal Microvascular Basement Membrane and of Retinal Microvascular Cells In Vitro 177

Number 3, March 1986

Lass, J. H., Ellison, R. R., Wong, K. M. and Klein, L. Collagen Degradation and Synthesis in Experimental Corneal Grafts 201

Williams, R. N. and Paterson, C. A. A Protective Role for Ascorbic Acid During Inflammatory Episodes in the Eye 211

Trocme, S. D., Baird, R. S., Bloch, K. J. and Allansmith, M. R. Worm Antigen-induced Ocular Anaphylaxis in Rats Infected with *Nippostrongylus brasiliensis* 219

David, L. L. and Shearer, T. R. Purification of Calpain II from Rat Lens and Determination of Endogenous Substrates 227

ARGUILLÈRE, P., PATEY, A. and HIRSCH, M. Quantitative Analysis of Tight Junctions During Ciliary Epithelium Development 239

PEYMAN, G. A., FISHMAN, P. H., ALEXANDER, K. R., WOODHOUSE, M. and WEINREB, R. N. The effect of Ultraviolet, Visible and Infrared Radiation on the Rabbit Blood–Aqueous Barrier 249

BAUER, P. J. and MAVROMMATI, E. Permeability of Rod Outer Segment Disk Membranes as Probed by Ficoll Density Gradient Centrifugation and by Turbidimetry 255

ANDERSON, D. H., FISHER, S. K. and BREDING, D. J. A Concentration of Fucosylated Glycoconjugates at the Base of Cone Outer Segments: Quantitative Electron Microscope Autoradiography 267

LETTERS TO THE EDITORS

PAUTLER, E. L., MAGA, J. A. and TENGERDY, C. A Pharmacologically Potent Natural Product in the Bovine Retina 285

WINKLER, B. S., SOLOMON, F. and MCDOWELL, K. A Note of Caution to Those Who Add Reduced Glutathione (GSH) to Incubation Media 289

NUMBER 4, APRIL 1986

KATZ, M. L. and ROBINSON, W. G. Jr Evidence of Cell Loss from the Rat Retina During Senescence 293

JULIÀ, P., FARRES, J. and PARÉS, X. Ocular Alcohol Dehydrogenase in the Rat: Regional Distribution and Kinetics of the ADH-1 Isoenzyme with Retinol and Retinal 305

TARRÉS, M. A. G., BARON, M. and GALLEGO, A. The Horizontal Cells in the Retina of the Owl, *Tyto alba* and Owlet, *Carinae noctua* 315

COLLEY, N. J. and HALL, M. O. Phagocytosis of Light- and Dark-Adapted Rod Outer Segments by Cultured RPE Cells: a Reassessment 323

CALDERONE, L., GRIMES, P. and SHALEV, M. Acute Reversible Cataract Induced by Xylazine and by Ketamine–Xylazine Anesthesia in Rats and Mice 331

GARNER, M. H. and SPECTOR, A. ATP Hydrolysis Kinetics by Na,K-ATPase in Cataract 339

STONE, R. A. Neuropeptide Y and the Innervation of the Human Eye 349

BROWN, J. C. C., SADLER, P. J., SPALTON, D. J., JUUL, S. M., MACLEOD, A. F. and SÖNKSEN, P. H. Analysis of Human Aqueous Humour by High Resolution ^{1}H NMR Spectroscopy 357

HARGRAVE, P. A., ADAMUS, G. ARENDT, A., MCDOWELL, J. H., WANG, J., SZARY, A., CURTIS, D. and JACKSON, R. W. Rhodopsin's Amino terminus is a Principal Antigenic Site 363

MOLNÀR, M. L., RÖYTTA, M., STEFANSSON, K., SALMI, T. A. and MOLNÀR, G. K. Myelin-associated Glycoprotein in the Developing Human Retina 375

GRIERSON, I., NAGASUBRAMIAN, S., EDWARDS, J., MILLAR, L. C. and ENNIS, K. The Effects of Various Levels of Intraocular Pressure on the Rabbit's Outflow System 383

TERVO, T., SULONEN, J., VALTONEN, S., VANNAS, A. and VIRTANEN, I. Distribution of Fibronectin in Human and Rabbit Corneas 399

NUMBER 5, MAY 1986

SUZUKI, R. and KOBAYASHI, S. Effects of Divalent Cations on the Spontaneous Synchronization in Mammalian Iris Sphincter Muscle Cells 407

CHAN, K. Y. Release of Plasminogen Activator by Cultured Corneal Epithelial Cells During Differentiation and Wound Closure 417

PARMELEE, J. T. Measurement of Steady Currents Around the Frog Lens 433

LÜTJEN-DRECOLL, E., SHIMIZU, T., ROHRBACH, M. and ROHEN, J. W. Quantitative Analysis of 'Plaque Material' in the Inner- and Outer wall of Schlemm's Canal in Normal- and Glaucomatous Eyes 443

Lütjen-Drecoll, E., Shimizu, T., Rohrbach, M. and Rohen, J. W. Quantitative Analysis of 'Plaque Material' Between Ciliary Muscle Tips in Normal- and Glaucomatous Eyes 457
Jones, C. W., Cunha-Vaz, J. G., Zeimer, B. C., Rusin, M. M., Langenberg, P. W., Vygantas, C. M., Tso, M. O. M. and Jonasson, O. Ocular Fluorophotometry in the Normal- and Diabetic Monkey 467
McKechnie, N. M., Al-Mahdawi, S., Dutton, G. and Forrester, J. V. Ultrastructural Localization of Retinal S Antigen in the Human Retina 479
Dovrat, A., Scharf, J., Eisenbach, L. and Gershon, D. G6PD Molecules Devoid of Catalytic Activity are Present in the Nucleus of the Rat Lens 489
Letters to the Editors
Takemoto, L., Takehana, M. and Horowitz, J. Antisera to Synthetic Peptides of MIP26K as Probes of Membrane Changes During Human Cataractogenesis 497
Shearer, T. R., David, L. L. and Anderson, R. S. Selenite Decreases Phase Separation Temperature in Rat Lens 503

Number 6, June 1986

Wiechmann, A. F. Melatonin: Parallels in Pineal Gland and Retina 507
Greene, P. R. and Guyton, D. L. Time Course of Rhesus Lid-suture Myopia 529
Baker, B. N., Moriya, M. and Williams, T. P. Alteration of Disk-shedding Patterns by Light-onset of Higher than Normal Intensity 535
Baker, B. N., Moriya, M., Maude, M. B., Anderson, R. E. and Williams, T. P. Oil Droplets of the Retinal Epithelium of the Rat 547
Riley, M. V. and Kishida, K. ATPases of Ciliary Epithelium: Cellular and Subcellular Distribution and Probable Role in Secretion of Aqueous Humor 559
Tucker, G. S., Hamasaki, D. I. and Wong, C. G. Intranuclear Rodlets in the Rabbit Retina Following Treatment with MPTP 569
Winkler, B. S. Buffer Dependence of Retinal Glycolysis and ERG Potentials 585
McGahan, M. C., Bito, L. Z. and Myers, B. M. The Pathophysiology of the Ocular Microenvironment. II. Copper-induced Ocular Inflammation and Hypotony 595
Lou, M. F., McKellar, R. and Chyan, O. Quantitation of Lens Protein Mixed Disulfides By Ion-Exchange Chromatography 607
Marcantonio, J. M., Duncan, G. and Rink, H. Calcium-induced Opacification and Loss of Protein in the Organ-cultured Bovine Lens 617
Mosinger, J. L., Yazulla, S. and Studholme, K. M. GABA-like Immunoreactivity in the Vertebrate Retina: a Species Comparison 631
Breneman, J. W., Robles, L. J. and Bok, D. Light-activated Retinoid Transport in Cephalopod Photoreceptors 645

Digitized by the Internet Archive
in 2023 with funding from
Kahle/Austin Foundation

https://archive.org/details/experimental-eye-research_1986_42_indexcontents

AUTHOR INDEX

Adamus, G. (see Hargrave, P. A.), 363
Akpalaba, C. O., Oraedu, A. C. I. and Nwanze, E. A. C., Biochemical studies on the effects of continuous light on the albino rat retina, 1
Albert, D. M., Puliafito, C. A., Haluska, F. G., Kimball, G. P. and Robinson, N. L., Induction of ocular neoplasms in Wistar rat by N-methyl-N-nitrosourea, 83
Alexander, K. R. (see Peyman, G. A.), 249
Allansmith, M. R. (see Sullivan, D. A.), 131
Allansmith, M. R. (see Trocme, S. D.), 219
Al-Mahdawi, S. (see McKechnie, N. M.), 479
Anderson, D. H., Fisher, S. K. and Breding, D. J. A., Concentration of fucosylated glycoconjugates at the base of cone outer segments: quantitative electron microscope autoradiography, 267
Anderson, R. E. (see Baker, B. N.), 547
Anderson, R. S. (see Shearer, T. R.), 503
Araie, M., Carboxyfluorescein. A dye for evaluating the corneal endothelial barrier function in vivo, 141
Arendt, A. (see Hargrave, P. A.), 363
Arguillère, P., Patey, A. and Hirsch, M., Quantitative analysis of tight junctions during ciliary epithelium development, 239

Baird, R. S. (see Trocme, S. D.), 219
Baker, B. N., Moriya, M. and Williams, T. P., Alteration of disk-shedding patterns by light-onset of higher than normal intensity, 535
Baker, B. N., Moriya, M., Maude, M. B., Anderson, R. E. and Williams, T. P., Oil droplets of the retinal epithelium of the rat, 547
Baron, M. (see Tarrés, M. A. G.), 315
Bauer, P. J. and Mavrommati, E., Permeability of rod outer segment disk membranes as probed by Ficoll density gradient centrifugation and by turbidimetry, 255
Beebe, D. C. (see Zintz, C.), 43
Bentley, P. J. (see Cook, C. S.), 107
Bito, L. Z. (see McGahan, M. C.), 595
Bloch, K. J. (see Trocme, S. D.), 219
Bok, D. (see Breneman, J. W.), 645
Bono, A. (see Pandolfo, L.), 167
Breding, D. J. A. (see Anderson, D. H.), 267
Breneman, J. W., Robles, L. J. and Bok, D., Light-activated retinoid transport in cephalopod photoreceptors, 645
Brown, J. C. C., Sadler, P. J., Spalton, D. J., Juul, S. M., Macleod, A. F. and Sönksen, P. H., Analysis of human aqueous humour by high resolution ^{1}H NMR spectroscopy, 367

Calderone, L., Grimes, P. and Shalev, M., Acute reversible cataract induced by xylazine and ketamine–xylazine anesthesia in rats and mice, 331
Chan, K. Y., Release of plasminogen activator by cultured corneal epithelial cells during differentiation and wound closure, 417
Chyan, O. (see Lou, M. F.), 607
Colley, N. J. and Hall, M. O., Phagocytosis of light- and dark-adapted rod outer segments by cultured RPE cells: a reassessment, 323
Cook, C. S. and Bentley, P. J., Copper exchanges and toxicity in the rabbit lens in vitro, 107
Cunha-Vaz, J. G. (see Jones, C. W.), 467
Curtis, D. (see Hargrave, P. A.), 363

David, L. L. and Shearer, T. R., Purification of calpain II from rat lens and determination of endogenous substrates, 227
David, L. L. (see Shearer, T. R.), 503
Davies, P. (see Lucas, V. A.), 151
Dovrat, A., Scharf, J., Eisenbach, L. and Gershon, D., G6PD molecules devoid of catalytic activity are present in the nucleus of the rat lens, 489
Duncan, G. (see Lucas, V. A.), 141
Duncan, G. (see Marcantonio, J. M.), 617
Dutton, G. (see McKechnie, N. M.), 479

Edwards, J. (see Grierson, I.), 383
Eisenbach, L. (see Dovrat, A.), 489
Ellison, R. R. (see Lass, J. H.), 201
Ennis, K. (see Grierson, I.), 383

Fagerholm, P. (see Palmquist, B.-M.), 35
Farrés, J. (see Julià, P.), 305
Fisher, S. K. (see Anderson, D. H.), 267
Fishman, P. H. (see Peyman, G. A.), 249
Forrester, J. V. (see McKechnie, N. M.), 479
Frank, R. N. (see Kennedy, A.), 177

Gallego, A. (see Tarrés, M. A. G.), 315
Garner, M. H. and Spector, A., ATP hydrolysis kinetics by Na,K-ATPase in cataract, 339
Gärtner, J., Electron-microscopic study on the fibrillar network and fibrocyte–collagen interactions in the vitreous cortex at the ora serrata of human eyes with special regard to the role of disintegrating cells, 21
Gershon, D. (see Dovrat, A.), 489
Gona, O. and White, J. H., Response of the lens of the galactose-fed rat to YAG laser-induced injury, 117
Greene, P. R. and Guyton, D. L., Time course of rhesus lid-suture myopia, 529
Grierson, I., Nagasubramian, S., Edwards, J., Millar, L. C. and Ennis, K., The effects of various levels of intraocular pressure on the rabbit's outflow system, 383
Grimes, P. (see Calderone, L.), 331
Guyton, D. L. (see Greene, P. R.), 529

Hall, M. O. (see Colley, N. J.), 323
Haluska, F. G. (see Albert, D. M.), 83
Hamasaki, D. I. (see Tucker, G. S.), 569
Hargrave, P. A., Adamus, G., Arendt, A., McDowell, J. H., Wang, J., Szary, A., Curtis, D. and Jackson, R. W., Rhodopsin's amino terminus is a principal antigenic site, 363
Hicks, D. and Molday, B. S., Differential immunogold–dextran labelling of bovine and frog rod and cone cells using monoclonal antibodies against bovine rhodopsin, 55
Hirsch, M. (see Arguillère, P.), 239
Horowitz, J. (see Takemoto, L.), 497

Jackson, R. W. (see Hargrave, P. A.), 363
Jonasson, O. (see Jones, C. W.), 467
Jones, C. W., Cunha-Vaz, J. G., Zeimer, B. C., Rusin, M. M., Langenberg, P. W., Vygantas, C. M., Tso, M. O. M. and Jonasson, O., Ocular fluorophotometry in the normal- and diabetic monkey, 467
Jose, J. G., Posterior cataract induction by UV-B radiation in albino mice, 11
Julià, P., Farrés, J. and Parés, X., Ocular alcohol dehydrogenase in the rat: regional distribution and kinetics of the ADH-1 isoenzyme with retinol and retinal, 305
Juul, S. M. (see Brown, J. C. C.), 357

Katz, M. L. and Robison, W. G., Jr, Evidence of cell loss from the rat retina during senescence, 293
Kean, E. L. (see Organisciak, D. T.), 73
Kennedy, A., Frank, R. N., Mancini, M. A. and Lande, M., Collagens of the retinal microvascular basement membrane and of retinal microvascular cells in vitro, 177
Kimball, B. P. (see Albert, D. M.), 83
Kishida, K. (see Riley, M. V.), 559
Klein, L. (see Lass, J. H.), 201
Kobayashi, S. (see Suzuki, R.), 407

Lake, N., Electroretinographic deficits in rats treated with guanidinoethyl sulfonate, a depletor of taurine, 87
Landau, I. (see Palmquist, B.-M.), 35
Lande, M. (see Kennedy, A.), 177
Langenberg, P. W. (see Jones, C. W.), 467
Lass, J. H., Ellison, R. R., Wong, K. M. and Klein, L., Collagen degradation and synthesis in experimental corneal grafts, 201
Livrea, M. A. (see Pandolfo, L.), 167
Lou, M. F., McKellar, R. and Chyan, O., Quantitation of lens protein mixed disulfides by ion-exchange chromatography, 607

Lucas, V. A., Duncan, G. and Davies, P., Membrane permeability characteristics of perfused human senile cataractous lenses, 151
Lütjen-Drecoll, E., Shimizu, T., Rohrbach, M. and Rohen, J. W., Quantitative analysis of 'plaque material' in the inner- and outer wall of Schlemm's canal in normal- and glaucomatous eyes, 443
Lütjen-Drecoll, E., Shimizu, T., Rohrbach, M. and Rohen, J. W., Quantitative analysis of 'plaque material' between ciliary muscle tips in normal- and glaucomatous eyes, 457

McDowell, J. H. (see Hargrave, P. A.), 363
McDowell, K. (see Winkler, B. S.), 289
McGahan, M. C., Bito, L. Z. and Myers, B. M., The pathophysiology of the ocular microenvironment. II. Copper-induced ocular inflammation and hypotony, 595
McKechnie, N. M., Al-Mahdawi, S., Dutton, G. and Forrester, J. V., Ultrastructural localization of retinal S antigen in the human retina, 479
McKellar, R. (see Lou, M. F.), 607
Macleod, A. F. (see Brown, J. C. C.), 357
Maga, J. A. (see Pautler, E. L.), 285
Mancini, M. A. (see Kennedy, A.), 177
Marcantonio, J. M., Duncan, G. and Rink, H., Calcium-induced opacification and loss of protein in the organ-cultured bovine lens, 617
Maude, M. B. (see Baker, B. N.), 547
Mavrommati, E. (see Bauer, P. J.), 255
Millar, L. C. (see Grierson, I.), 383
Molday, B. S. (see Hicks, D.), 55
Molnàr, G. K. (see Molnàr, M. L.), 375
Molnàr, M. L., Röytta, M., Stefansson, K., Salmi, T. A. and Molnàr, G. K., Myelin-associated glycoprotein in the developing human retina, 375
Moriya, M. (see Baker, B. N.), 535, 547
Mosinger, J. L., Yazulla, S. and Studholme, K. M., GABA-like immunoreactivity in the vertebrate retina: a species comparison, 631
Myers, B. M. (see McGahan, M. C.), 595

Nagasubramian, S. (see Grierson, I.), 383
Noell, W. K. (see Organisciak, D. T.), 73
Nwanze, E. A. C. (see Akpalaba, C. O.), 1

Oraedu, A. C. I. (see Akpalaba, C. O.), 1
Organisciak, D. T., Wang, H.-M., Noell, W. K., Plantner, J. J. and Kean, E. L., Rod outer segment lipids in vitamin A-adequate and -deficient rats, 73

Palmquist, B.-M., Fagerholm, P. and Landau, I., Selenium-induced cataract – a correlation of dry mass content and light scattering, 35
Pandolfo, L., Livrea, M. A. and Bono, A., Effects of bendazac L-lysine salt on X-ray-induced cataract in the rabbit lens, 167
Parés, X. (see Julià, P.), 305
Parmelee, J. T., Measurement of steady currents around the frog lens, 433
Paterson, C. A. (see Williams, R. N.), 211
Patey, A. (see Arguillère, P.), 239
Pautler, E. L., Maga, J. A. and Tengerdy, C., A pharmacologically potent natural product in the bovine retina, 285
Peyman, G. A., Fishman, P. H., Alexander, K. R., Woodhouse, M. and Weinreb, R. N., The effect of ultraviolet, visible and infrared radiation on the rabbit blood-aqueous barrier, 249
Plantner, J. J. (see Organisciak, D. T.), 73
Puliafito, C. A. (see Albert, D. M.), 83

Riley, M. V. and Kishida, K., ATPases of ciliary epithelium: cellular and subcellular distribution and probable role in secretion of aqueous humor, 559
Rink, H. (see Marcantonio, J. M.), 617
Robinson, N. L. (see Albert, D. M.), 83
Robison, W. G., Jr (see Katz, M. L.), 293
Robles, L. J. (see Breneman, J. W.), 645
Rohen, J. W. (see Lütjen-Drecoll, E.), 443, 457
Rohrbach, M. (see Lütjen-Drecoll, E.), 443, 457
Röytta, M. (see Molnàr, M. L.), 375

Rungby, J., The silver nitrate prophylaxis of Credé causes silver deposition in the cornea of experimental animals, 93
Rusin, M. M. (see Jones, C. W.), 467
Russell, P. and Sato, S., A study of lectin-binding to the water-insoluble proteins of the lens, 95

Sadler, P. J. (see Brown, J. C. C.), 357
Salmi, T. A. (see Molnàr, M. L.), 375
Sato, S. (see Russell, P.), 95
Scharf, J. (see Dovrat, A.), 489
Shalev, M. (see Calderone, L.), 331
Shearer, T. R., David, L. L. and Anderson, R. S., Selenite decreases phase separation temperature in rat lens, 503
Shearer, T. R., (see David, L. L., 227
Shimizu, T. (see Lütjen-Drecoll, E.), 443, 457
Solomon, F. (see Winkler, B. S.), 289
Sönksen, P. H. (see Brown, J. C. C.), 357
Spalton, D. J. (see Brown, J. C. C.), 357
Spector, A. (see Garner, M. H.), 339
Stefansson, K. (see Molnàr, M. L.), 375
Stone, R. A., Neuropeptide Y and the innervation of the human eye, 349
Studholme, K. M. (see Mosinger, J. L.), 631
Sullivan, D. A. and Allansmith, M. R., Hormonal modulation of tear volume in the rat, 131
Sulonen, J. (see Tervo, T.), 399
Suzuki, R. and Kobayashi, S., Effects of divalent cations on the spontaneous synchronization in mammalian iris sphincter muscle cells, 407
Szary, A. (see Hargrave, P. A.), 363

Takehana, M. (see Takemoto, L.), 497
Takemoto, L., Takehana, M. and Horowitz, J., Antisera to synthetic peptides of MIP26K as probes of membrane changes during human cataractogenesis, 497
Tarrés, M. A. G., Baron, M. and Gallego, A., The horizontal cells in the retina of the owl, *Tyto alba* and owlet, *Carinae noctua*, 315
Tengerdy, C. (see Pautler, E. L.), 285
Tervo, T., Sulonen, J., Valtonen, S., Vannas, A. and Virtanen, I., Distribution of fibronectin in human and rabbit corneas, 399
Trocme, S. D., Baird, R. S., Bloch, K. J. and Allansmith, M. R., Worm antigen-induced ocular anaphylaxis in rats infected with *Nippostrongylus brasiliensis*, 219
Tso, M. O. M. (see Jones, C. W.), 467
Tucker, G. S., Hamasaki, D. I. and Wong, C. G., Intranuclear rodlets in the rabbit retina following treatment with MPTP, 569

Valtonen, S. (see Tervo, T.), 399
Vannas, A. (see Tervo, T.), 399
Virtanen, I. (see Tervo, T.), 399
Vygantas, C. M. (see Jones, C. W.), 467

Wang, H.-M. (see Organisciak, D. T.), 73
Wang, J. (see Hargrave, P. A.), 363
Weinreb, R. N. (see Peyman, G. A.), 249
White, J. H. (see Gona, O.), 117
Wiechmann, A. F., Melatonin: parallels in pineal gland and retina, 507
Williams, R. N. and Paterson, C. A., A protective role for ascorbic acid during inflammatory episodes in the eye, 211
Williams, T. P. (see Baker, B. N.), 535, 547
Winkler, B. S., Buffer dependence of retinal glycolysis and ERG potentials, 585
Winkler, B. S., Solomon, F. and McDowell, K., A note of caution to those who add reduced glutathione (GSH) to incubation media, 289
Wong, C. G. (see Tucker, G. S.), 569
Wong, K. M. (see Lass, J. H.), 201
Woodhouse, M. (see Peyman, G. A.), 249
Yazulla, S. (see Mosinger, J. L.), 631

Zeimer, B. C. (see Jones, C. W.), 467
Zintz, C. and Beebe, D. C., Morphological and cell volume changes in rat lens during the formation of radiation cataracts, 43

SUBJECT INDEX

ADH, 305
Aerobic glycolysis, 585
Age changes, 293, 457
Age changes of trabecular meshwork, 443
Aggregation, 21
Albino rat, 1
Alcohol metabolism, 305
Amacrine cells, 569
Analysis, 357
Androgens, 131
Anesthesia, 331
Anion ATPase, 559
Anterior uveal transport, 595
Antigenic site, 363
Anti-rhodopsin monoclonal antibodies, 55
Aqueous humour, 357, 559, 595
Aqueous outflow system, 443
Aqueous plexus, 383
Ascorbic acid, 211, 595
Autoradiography, 43, 107, 645
Axial-length changes, 529

Ba^{2+}, 407
Basement membrane, 177
Bendazac-L-lysine, 167
Bicarbonate–CO_2, 585
Blood–aqueous barrier, 239, 249
Blood–retinal barrier, 467
Bovine, retina, 285
Buffers, 585

Calcium, 151, 617
Ca^{2+}, 407
Calpain II, 227
Carboxyfluorescein, 141
Carinae noctua, 315
Cataracts, 11, 35, 43, 151, 167, 227, 331, 339, 497, 607
Cell culture, 417
Cell death, 293
Cell migration, 417
Cell volume, 43
Cephalopod, 645
Chronic simple glaucoma, 443, 457
Ciliary body, 559
Ciliary epithelium, 239
Ciliary muscle, 407, 457
Circadian rhythm, 323
Collagen, 21, 177
Collagen degradation and synthesis, 201
Cone, 267
Cone cells, 55
Continuous light, 1
Copper, 107, 595
Cornea, 93, 305
Corneal endothelial permeability, 141
Corneal epithelium, 417
Corneal wound healing, 201
Corneal–aqueous distribution ratio, 141
Crystalline lens, 11
Cysteic acid, 607

Diabetes, 339, 467
Differentiation, 417
Disintegrating cells, 21
Disk flotation, 255
Disk membrane, 255
Disulfides, 607
DNA content, 293
Dopamine, 569
Dry mass, 35

EGTA, 617
Elastic-like fibers, 457
Electrical coupling, 407
Electron microscopy, 55
Electroretinogram potentials, 585
Electroretinography, 87
Endothelial cells, 177
Epithelial cells, 399
Ethanol, 305
Exfoliation glaucoma, 443
Experimental corneal grafts, 201
Experimental wounding, 399
Exponential attenuation process, 529
Eye, 211, 349

Fibrocytes, 21
Fibronectin, 399
Ficoll interaction, 255
Fluorography, 177
Fluorophotometry, 249
Fluorescein, 141
Free radicals, 211
Freeze-fracture, 239
Frog lens, 433
Fucose, 267

Galactose-fed rat, 117
Gamma aminobutyric acid, 631
Gap junction, 407
Giant vacuoles, 383
Glaucoma, 443, 457
Glucose-6-phosphate dehydrogenase, 489
Glutathione, 289
Glutathione, reduced, 167
Glutathione sulfonic acid, 607
Glycoprotein, 95, 267
GSH, 289
Guanidinoethyl sulfonate, 87

HEPES, 585
High-resolution NMR spectroscopy, 357
Horizontal cells, 315
Human, 95, 151, 349, 479, 497, 631
Human retina, 375
Hydration, 167
Hydrogen peroxide, 339

Hyperglycemic, 607
Hypothalamic-pituitary axis, 131

Immunoassay, 363
Immunocytochemistry, 177, 631
Immunogold–dextran particles, 55
Immunohistochemistry, 349, 375
Incubation media, 289
Inflammation, 211
Infrared light, 249
Injury, 117
Innervation, 349
Intramural pericytes, 177
Intranuclear rodlets, 569
Intraocular foreign bodies, 595
Intraocular pressure, 383
Ion-exchange column chromatography, 607
Iris sphincter muscle, 407
Isotopic kinetics, 201

Ketamine, 331
Lactic acid production, 585
Laser, 117
Lectin, 95
Lens, 95, 107, 117, 151, 227, 433, 489, 503, 617
Lens culture, 607
Lens fiber differentiation, 43
Lens opacities, 11
Lens toxicity, 107
Leukocytes, 211
Lid-suture myopia, 529
Light, 535
Light scatter, 35
Light-activated, 645
Lipid metabolism, 547
Lipids, 73
Lysosomal enzymes, 21

Mg^{2+}, 407
Man, 399
Membrane, 151
Membrane changes, 497
Membrane protein, 95
Metabolites, 357
Mice, 331
MIP26K, 497
Mixed disulfides, 607
Monkey, 95, 467
Monoclonal antibody, 363
Morphogenesis, 239
Mouse, 95
MPTP, 569
Müller cells, 375
Multi-unit smooth muscle, 407
Mydriasis, 331
Myelin-associated glycoprotein (MAG), 375
Myopia, 529

Neoplasms, 83
Neuropeptide, 349
Neurotransmitter, 631
Nippostrongylus brasiliensis, 219
N-methyl-N-nitrosourea, 83
Non-pigmented cell, 559

Ocular anaphylaxis, 219
Ocular fluorophotometry, 467
Ocular hypotension, 595
Ocular inflammation, 595
Oil droplets, 547
Opacification, 617
Ora serrata, 21
Organ culture, 617
Osmotic effects, 255
Osmotic stress, 617
Ouabain, 433, 617
Outflow system, 383
Owl, 315
Owlet, 315

Peptide, 363
Permeability, 255, 467
pH, 585
Phagocytosis, 21, 323, 535
Philly mouse, 95
Phosphate, 585
Photoreceptor, 255, 267, 323, 535, 645
Photoreceptor cells, 55
Pigment epithelium, 305, 323, 547
Pigmented cell, 559
Pigmented rats, 293
Pineal gland, 507
Plasminogen activator, 417
Potassium currents, 433
K,H-ATPase, 559
Protease, 227
Protein degradation, 227
Protein loss, 617
Proteins, 167
Proton NMR spectroscopy, 357

Quantitation, 607
Quantitative analysis, 239
Quantitative microradiography, 35

Rabbit, 383, 399
Radiation cataracts, 43
Radiobiochemistry, 645
Rat, 1, 35, 73, 83, 87, 117, 131, 293, 331, 535, 547, 585
Rat lens, 227, 503
Refractive changes, 529
Renewal, 535
Retina, 55, 285, 293, 305, 315, 375, 507, 535, 547, 585, 631
Retinal, 305
Retinal damage, 1
Retinal microvessels, 177
Retinal pigment epithelium, 323
Retinal S antigen, 479
Retinol, 305
Retinoid, 645
^{86}Rh, 151
Rhesus monkey, 529
Rhodopsin, 55, 293, 363
Rod cells, 55, 535
Rod outer segments, 55, 73
Rodlets, 569

S antigen, 479
Scheimpflug photography, 35
Schlemm's canal, 443
SDS-PAGE, 177
Secretion, 21
Selenite, 35, 503
Selenium, 35
Sensory denervation, 399
Silver nitrate, 93
Slit lamp, 43
Sodium currents, 433
Sodium dodecyl sulfate–polyacrylamide gel electrophoresis, 177
Sodium pump, 559
Na,K-ATPase, 339, 433, 559
Soluble and insoluble proteins, 167
Stratification, 417

Taurine, 87
Tear volume, 131
Thin-section labeling, 55
Three-dimensional serial reconstruction, 43
Threonine, 107
Tight junctions, 239
Time constant, 529
Tissue culture, 177
Trabecular meshwork, 443, 457
Transport, 645
Tris$^+$, 585
Turbidimetry, 255
Tyto alba, 315

Ultrasound, 529
Ultrastructure, 479
UV, 11, 249
UV-A, 11
UV-B, 11

Vibrating probe, 433
Visible light, 249
Visual cycle, 305
Vitamin A, 547
Vitamin A deficiency, 73
Vitreous cortex, 21
Vitreous humor, 595

Worm antigen, 219
Wound healing, 117, 417

X-ray, 167
Xylazine, 331

YAG laser, 117

Zinc, 107